

## FLUORESCENT LAMP DISPOSAL SYSTEM

FF This application is a continuation-in-part of U.S. Application Serial No. 10/330,814, filed December 27, 2002, which is a continuation of U.S. Application Serial No. 09/540,410, filed March 31, 2000, which claims priority to and the benefit of U.S. Application No. 60/127,381, filed April 1, 1999, all of the above-identified applications are incorporated by reference.

### BACKGROUND OF THE INVENTION

This invention relates generally to the collection, storage and disposal of chemical wastes, especially upon cruise and cargo vessels, and particularly to the collection, storage and disposal of fluorescent lamps and the recovery of mercury vapors emitted from said fluorescent lamps.

There are several problems associated with the collection and disposal of fluorescent lamps, which generate waste on ships and upon large ships in general. The operators, i.e., ship employees, of on-board chemical waste collection and disposal systems are often unknowledgeable about the proper use of present-day waste collection systems. Such operators are typically not aware of procedures for safe and code compliance handling of the waste and, therefore are not able to properly handle storage, movement, leakage or spillage of chemical waste.

Further, the common practice for ship employees to dispose of fluorescent lamps does not include the use of on-board chemical waste collection and disposal systems. Instead, the common practice is to dispose the fluorescent lamps with common non-chemical waste. This procedure results in the breakage of the fluorescent lamps and allows mercury vapors to emit from the fluorescent lamps and contaminate the immediate area thereby possibly intoxicating the ship employees' work area and also possibly causing serious health and safety violations.

The Occupational Safety and Health Administration (OSHA) has set Permissible Exposure Limits (PEL) for the number of air contaminants in the Code of Federal Regulations for Labor and Industry (29 CFR 1910.1000). The PEL's are based upon an 8-hour Time Weighted Average (TWA) concentration. An employees' exposure to a substance for an 8-hour work shift of a 40-hour work week should not exceed the 8-hour TWA PEL for that substance. For substances with a Ceiling Limit, the concentration shall not exceed that limit at any time during the working exposure. For Mercury, the OSHA PEL is, 0.1 mg/m<sup>3</sup> (C) pursuant to 29 C.F.R. 1910.1000 (z) (2).

As such, it is highly desirable to provide a chemical waste collection, storage and disposal system for the safe handling of fluorescent lamps upon their useful life ending.

It is therefore, to the effective resolution of the aforementioned problems and shortcomings